RISTORY AND DESCRIPTION OF THE BROOKLYN WATER WORKS.

To-day, marks an important era in the history of Brooklyn. The subject of supplying the city with water had for many successive years engaged the attention of its citizens, and after discussing numerons projects presented from time to time, in all their bearings, at public meetings, at private gatherings and in the Common Council, definite plans were eventually adopted, the works commenced and practically completed, and now an abundance of clean pure, fresh, limpid water, adapted for all necessary purposes, is flowing into the houses of the inhabitants. There is great rejoicing in consequence, and the event will be celebrated this day by the ringing of bells. the firing of cannon, music, processions, orations and areworks. The military, firemen, trades and associations will all turn out, and thousands of invited guests will be present from a distance. It promises to be an occasion long to be remembered.

As early as the year 1834, the citizens of Brooklyn became so fully awake to the importance of a liberal supply of good water as to have public meetings on subject, and action in regard thereto was taken in the Board of Trustees, but without definite results. Brooklyn was then a small village embracing an area of one mile square, and divided into fire districts. The boundaries consisted of the East River, Pacific street (then called District street), Red Hook lane and along a diagonal line to the corner of Flushing avenue and Navy street. There were eight fire engines, one book and ladder company, and but few public cisterns. In fact, great difficulty existed in those days in procuring water for the extinguishment of fires, which had become alarmingly frequent, and impelled the villagers to inquire into the means of supply. With this view, a Committee was appointed by the Board of Trustees. consisting of Gabriel Fueman, James Walters and Jonathan Trotter, who submitted the following report of their investigations on the 24th of March, 1834;

The Committee to whom was referred the subje of supplying this village with water report that they are satisfied it is practicable to secure a full supply of pure and wholesome water for domestic use and for pure and whole-ome water fer domestic use and for the extinguishment of fires, at an expense much les-(and under an ordinary state of circumstances, with a settled state of the currency question, they would feel no hesitation in urging upon you the adoption of immediate means to obtain such supply).
"Your Committee have ascertained that water in

refficient quantity, and of an excellent quality, may be ebtained at the foot of the elevated ground on which Port Greene is situated, and by means of a steam engine the water could be raised to a reservoir, which engine the water could be raised to a reservoir, when might be constructed on that Fort, and from thence through pipes might be carried to any part of this village, and by means of hydrants placed in the streets could be used for the extinguishment of fires.

"The most material consideration, after ascertaining is to incurs into the probable expension.

Engine building, constrong wear of control because of the wells, engine, &c. Three miles of 10-inch pipe. Eight miles of 4-inch pipe. Building Reservoir and ground. Contingent expenses.	8,000 27,000 30,072 8,000 20,000
Making in all. The annual expense they estimate as follow interest at 6 percent on \$100,000. Running eagme, fact, decay. Contingent expenses.	\$100,000 W8: \$6,000 5,000
Total	\$10,000

"In this estimate of the annual expense the item for running the engine is made for running a 12-horse en-gine 12 hours per day for 365 days, including all the wear and tear, and which will afford a supply of 92,000 heads of water per day. On this item alone your mittee think a saving of \$500 per annum could be made from their estimate. Another item, in which a reduction might probably be made from the estimate of your Committee, is that for the building of the Reservoir and ground, \$8,000, from which they think \$3,000 or \$4,000 may be taken, by using for the purpose of the Reservoir the ground on Fort Greene, now belonging to the town.

"From the examination your Committee have given this subject they

this subject, they are impressed with the necessity of carrying into effect the proposition for supplying this place with water, have no doubt that the great advantages to result therefrom will be much more than vantages to result therefrom will be much more than commensurate with the expense attending the same. They would therefore suggest the propriety of a further reference of this subject to some suitable Committee, and that such Committee be authorized to procure the services of a competent engineer to survey and report upon the steps and measures necessary to the full completion of the project of obtaining such supply, with the necessary estimates of the probable expenses ending the same. This communication, which is the first recorded

document of any official movement upon the subject of introducing water, was never definitely acted upon. Fort Greene was then an open common, Clinton avenue, lying beyond, which is now studded with palatial residences, with neatly embellished courtyards and lofty shade trees along the line of the side walks, then composed portions of several farms. A large part of that section of the city (far beyond the original limits of the village) is now compactly built, and streets and avenues stretch out for miles toward the east, west, north and south. Fort Greene, which still retains some slight resemblance of its former character-as a place of defense-is now, with the surrounding grounds, connected into an extensive Park comprising some forty acres, laid out in drives and winding walks and ernamented with a growth of young trees, promising for the future, a most delightfal promenade. It was at the foot of this hill, upon which the Fort was located, that the Committee proposed to sink wells to supply the then village with

On the 8th of April of the same year (1834), an act was passed by the Legislature, incorporating the territory comprising the town of Brooklyn, under a city charter. This gave an impulse to the progress of the place, and, under the influence of the spirit of improvement, which, at that juncture, pervaded the nd, the guardians of the infant city were disposed to lay its foundations deep and large. The greatest andertaking of that day, and one which involved the heaviest responsibilities, was the erection of a City Hall, upon a scale, and at an expense, that nothing but the sanguine spirit of the day would seem to excuse. The dimensions of this structure are thus detailed in the periodicals of the time:

detailed in the periodicals of the time:

"The Brooklyn City Hall, now creeting, is situated at the intersection of Fulton, Court and Jeralemon streets, occupying an entire block, forming a scalene triangle of 269 feet on Fulton street, 250 on Court street, and 222 on Joralemon streets. The exterior of the building is to be constructed of marble, and to have porticos on the three fronts, with columns 36 feet 6 inches high, ornamented with capitals of the Grecian order, from the design of the "Tower of the Winds," resting on a pedestal base 17 feet high, which, when finished, will be 62 feet from the ground to the top of the cornice. The angles are to be surmounted by domes, and rising from the center of the building will be a tower of 125 feet high, which will be earriched with a cornice and entablature, supported with caryatides standing on ure, supported with caryatides standing on s. The interior will be finished in the most pedestals. The interior will be hinsned and chaste and durable style of architecture, calculated to chaste and durable style of architecture, calculated to accommodate the different public offices, courts, &c.,

The work upon this building was commenced, the foundations laid and the walls partly constructed, when further progress was arrested and finally abandoned. New plans were procured, and the present

City Hall, standing upon the same site, is the result. The discussion and agitation of the question of procaring a supply of water appears to have been suspended during the progress of the above works, but was again revived in 1846, when Francis B. Stryker, then Mayor of the city, called attention to the matter in a special message to the Common Council. Subsequently the subject was discussed in public meetings and in the Common Council, until, finally, examinations and explorations by competent engineers were authorized, and the result of their inquiries established the belief that beneath the soil of the island and at the level of tide-water, there was a permanent an and inexhaustible supply of pure and wholesom water. The theory is that, the Island being compose shiefly of loose gravel and sand without any fixed strate of clay or other more solid material near the surface, the water which falls, instead of running off by streams, setles down to about the level of tide,

where it meets with an absolute fullness of water, since all below must naturally be filled with the element down to the solid substratum beneath. Thus is formed what is styled the "main spring," a permanent body of pure water, existing everywhere beneath the surface of the Island; fed by the surplusage of rain from above and discharging its surplus in turn, by percolation, interally through the gravel into the ocean. Public opinion having almost universally adopted the idea, the manner of reaching and availing themselves of the supply to be derived from this main spring, was a subject exciting much diversity of opinion and discussion among the people. The advocates of tapping it by the sinking of monster wells were at that time more numerous, though not more earnest than those who preferred to arrive at the same result by collecting the waters of the ponds and streams of the Island and bringing them into the city by means of a canal or conduit. There was still another portion of the community who preferred to arrange with New-York and secure a share of the Croton supply; but the reluctance on the part of New-York to permit anything to be done which would en danger the certainty and permanency of their own supply, caused that idea to be abandoned. It was the conflict between these various opinions and views, and the difficulty of concentrating the weight of majority of the public sentiment in support of either of them, that more than any other cause protracted to so late a period any definite action upon the subject. The great fire of September, 1848, when seven

acres of buildings were destroyed, gave new impluse and vitality to the agitation for a water supply, which made itself apparent in the action of the Com mon Council. The subject was referred to a Special Committee of that body, who were authorized to expend \$1,000 in the purchase of a steam engine to be used in experiments for supplying the city with water. Various plans of supply were suggested to the Common Council by citizens taking an active interest in the matter, which were referred to a Special Committee, who promptly, on the 8th of January, 1849, submitted a report. The report detailed the examinations and investigations made by the Committee. It proposed no definite plan, but favored the sinking of wells from which the water should be conveyed to a reservoir on Prospect Hill, and thence distributed throughout the city. The reservoir was to contain eleven millions of gallons, and the amount of distri bution-pipe estimated to be required was thirty-six miles. It was divided into two propositionsone proposing to furnish a supply extinguishment of fires solely, and a supply for all the uses of the inhabitants, in addition to what was required for extinguishing fires. The estimated cost of the whole work was \$830,000. On the 1st of February following, the Committee reported the draft of an act to enable the carrying into operation of their plan, which was forwarded to the Legislature, and by that body, on the 10th of April, 1849, enacted into a law. The act provides that the Mayor and Aldermen should appoint three persons to be known as "The Water Commissioners of the City of Brooklyn," who shall hold their offices for three years, and whose duty it was to examine and consider all matters relative to a supply of water for the city. They were empowered to employ engineers, surveyors, and other assistants to aid them, and were required to adoptfirst, a plan for procuring a sufficient supply for all the uses of the inhabitants. They were required to report to the Common Council, who were empowered, if they deemed it best, to adopt the first plan separately, and direct the work to be proceeded with at once, to meet the expenses of which they were authorized to borrow a sum not exceeding \$150,000 at 6 P cent interest, on a credit of from twenty to thirty years. In the event of the Common Council approving of the general plan, they were required to submit the question of its adoption or rejection to the electors. If it received the approval of a majority of the electors, the Common Council was authorized to direct the work to be proceeded with, and to borrow a sum not exceeding \$850,000 to defray the expenses thereof. On the 18th of June, 1849, a movement was made in the Common Council with the view of commencing operations under the law, by proposing the election of Water Commissioners. All action was, however, postponed until after the next meeting of the Legislature, in order that certain amendments,

deemed necessary, might be made to the law. The Common Council paid little attention to the subject in 1850. A proposition was made in July of that year, by Mr. John Disbrow, to construct a reservoir on Prospect Hill, to obtain a supply of water from shafts sunk in the earth in that vicinity, and raise it by means of machinery into the reservoir, which was to be constructed by sections, each section to contain 1,000,000 gallons. One section was to be put in working order within a year, and to be filled daily with water. The cost was not to exceed \$200,000, exclusive of the land, and, if desired, the supply of water was to be increased by adding additional sections to the reservoir, at the same rate of cost. No action was had on this proposition.

On the 13th January, 1851, it was referred to a special committee to report what action was expedient to procure a supply of water, and on the 1st of February ensuing the committee reported, recommending an application to the Legislature for such an amendment to the charter as would give the Common Council further power in the premises. This report was adopted. In June, 1851, the water committee was constituted a standing committee of the Board, and soon after the committee was instructed to make such investigations as they might deem necessary in order to bring the subject before the Common Council for definite action. In September following another resolution was adopted, authorizing the committee to employ a competent engineer to make a thorough examination of all matters connected with the subject. In November the sum of \$3,000 was appropriated for the use of the committee, to defray expenses which they must incur in the presecution of their labors. On the 8th December the City Clerk was directed to publish notice of the intention of the Common Council to apply to the Legislature for authority to contract a loan for the purpose of providing the necessary means to meet the expense that might be incurred in bringing a supply of water to the city. On the 2d of the same month the Committee submitted a report of progress with a general outline of a plan of supply prepared by W. J. McAlpine, jr. This plan adopted the streams on the south side of Long Island as a source of supply to be conveyed by means of a conduit, and pumped up into a reservoir to be constructed on Prospect Hill of a capacity of sixty millions gallons, and thence distribute throughout the city. Accompanying the report is an analysis of the quality of the water made by Dr. Chilton, which will be found interesting, as the sources from whence it was obtaine 1 are included

Though those which no	a supply the city.
Water from Raisley's Por	nd, Jamaica South, Nov. 26, 1851.
ONE GAL	LLON CONTAINS:
Carbonata of lime	.092 Sulphate of magnesia 288
Caroonate of thoe	406 Oxyd of iron 40
Carbonate of magnessa	Ott Operate metter
Chloride of sodium	244 Organic matter 8
Chioride of maguesia	343
Chloride of calcium	120 Total grains 2645
Calmbrate of little	120
Water from Peter No	strand a Pand, Nov. 26, 1601.
ONE GA	LLON CONTAINS:
Chloride of sodium	.835 Sulphate of magnesia136
Chloride of calcium	.240! Oxyd of trog Have
Salabate of lime	.962
Carbonate of lime and nos	962 Total grains 2.452
Marada Transcriptor Control Control	341
Water from J. L. Nostrand	Te or Simoneon's Poud, Nov. 25, 1851.
ONE CAL	LLON CONTAINS:
Chlorida of sodium	820 Sulphate of magnesis 610
Chloride of solidar	216 Oxyd of iron trace
Chloride of carcum	131 Organic matter 2
Canoride of magnesis	tot Otkame maker
Sulphate of lime	
Carbonate of lime and mag-	Total grams
pesia	E11)
A comparison of the	quality of this water with that
The second secon	

furnished to other cities exhibits the follo						ret with t	*	
		to	other	cities	exhibits	the	following	1
d	sults:				N	o. of	rains fixed s	

	No. of grains fixed solid
	matter in one gal.
Baiseley's	2.648
P. Nostrand's	2.452
J. L. Nostrand's for	Simouson's)
	ity) 6.650
Schuylkill (Philadelt	hia) 4.260
Carbitante (Restor	, surface 1.220

Annual Paris - Francisco Annual Annua	
Cochituate (Boston), 62 feet under surface	2.210
Huden River (at Albany)	6.323
Mohawk River (at Cahoes)	7,850
Patroon's Creek (used for Albany Water Works).	4.720
Thames River (at London)	22,000
New River (supply for London)	19,230
Hampstead Water Works (for London)	40,000
Well in St. Paul's Churchyard (London)	75,000
Well in St. Giles's (Holbern, London)	(03,000)
Artesian Well at Grenelle (Paris)	9.861
A CONTRACTOR OF THE PARTY OF TH	14 miles

The Committee recommended the approval of the plan of Mr. McAipine and its submission on the fourth Tuesday of January, 1852, to a vote of the people. They also asked leave to prepare a bill to be submitted to the Legislature in the event of the popular adoption of the plan. On the 29th of December, the report was taken up, and the recommendation of the Committee adopted. This completed the action taken u 1851, and its most important feature, it will be pereived, was the adoption for the first time of a definite plan of supply. The well system was utterly rejected s insufficient and impracticable, and from that time its advocates have never been able to rally to its support with any considerable degree of strength or

On the 19th January, 1852, the Water Committee eported a resolution recommending indefinite postponement of the day for popular action on the ques tion, and authorizing the further prosecution of th surveys and examinations then in progress, which resolution was adopted. The reason assigned for the adoption of this course was, that the report of the Committee of December was not considered by the people as sufficiently minute in its statements as to warrant, at that time, a commencement in the prosecution of the enterprise, and a very general desire was expressed that, before the question was formally submitted to the people, estimates more in detail should be presented.

On June 8, 1852, the Committee submitted what may be styled the final report, embodying the plan of Mr. McAlpine, an outline of which accompanies their report of Dec. 22, 1851, in detail. It is too volumin ous to be embedied in this description. The source of supply recommended is found in the streams which enter the ocean on the southern side of the island, ommencing with Jamaica Creek, and ending with East Mendow Creek-the first being thirteen miles from Fulton Ferry, and a little over nine miles from the pump-well. The supply which each stream would

furnish is thus estimated:		
From pump- well-miles. Jamaica Creek. 8.2 Springfield Creek, west branch. 1.0 Springfield Creek, east branch. 12.1 Hook, west branch. 12.2 Hook, west branch. 12.2 Hook, addidle branch. 14.2 Pinc Creek. 16.2 Parsonage Creek. 16.7 Millibound Creek. 19.0 East Meadow Creek. 21.3 East Meadow Creek. 21.3 Cast Meadow Creek. 2	Daily Sup. Gallens. 5,000,000 1,500,000 250,000 4,000,000 500,000 2,000,000 10,000,000 2,000,000 5,000,000	Agz. sup Gallous. 6,500,00 6,750,00 10,250,00 11,250,00 25,250,00 27,250,00 32,250,00

The general plan proposed was to collect the water in reservoirs formed by raising the water in streams by lone dams to an elevation of from 12 to 25 feet above low tide. From these lateral conducts were to connect with a line of main aqueduct which terminated at a pump, well located at Flatbush; thence the supply was to be forced by steam engines and pumps through large iron mains, into the distributing reservoir on Prospect Hill, and thence distributed through the city by cast iron pipes in the usual manner.

While this action was being taken in the City of Brooklyn, the citizens of Williamsburgh (since 1854, consolidated with the City of Brooklyn,) were not inattentive to the importance of obtaining a sufficient supply of water. The agitation of the question in that ommunity resulted in the incorporation by the Legislature on the 16th of April, 1852, of the Williams burgh Water Company, with a capital stock of \$250,000 for the purpose of securing for that city a good and sufficient supply of water. The project entertained by the Williamsburgh Company was the sinking of wells and the pumping of water therefrom into reservoirs, or collecting it from the ponds and streams on the north side of the Island; but upon investigation, the idea of obtaining a supply from those sources was abandoned.

On the 8th of June, 1853, was incorporated the Long Island Water Company, which absorbed and succeeded the Williamsburgh Company, with a capital stock of \$3,000,000, and empowered to furnish a sup-ply of water from the stream on the south side of the Island to Brooklyn as well as Williamsburgh, should they be able to succeed in negotiating with the corporate authorities of that city for that purpose. This private Company, under the Presidency of Nicholas Dean, esq., for many years connected with the Croton Aqueduct Department in New-York, lost no time in securing, in advance of the Brooklyn Common Council, the most prominent streams which were relied upon as sources of supply for that city.

In September, 1852, the Water Committee was authorized to enter into contract for the purchase of a distributing reservoir, &c. In November following an application was received from the Williamsburgh Company proposing to supply the City of Brooklyn with water, which the Common Council, with some indignation, gave them leave to withdraw. Though there was continual action from time to time on the subject in the Common Council, including the adoption of a remonstrance against increasing the capita stock of the Williamsburgh Company, yet there was nothing done of any particular importance till the 28th April, 1853, when, in secret session of the Common Council, resolutions were agreed to finally, determining that the plan of Mr. McAlpine should be adopted. At the same meeting a Special Committee was ap pointed to negotiate for the purchase of lands, &c. ecessary for the work. Public attention was not thoroughly aroused to the consideration of the question. The Common Council visited the streams, as did many citizens, and, generally, the result of their examinations was to satisfy them that the supply was as amply sufficient as the quality of the water was pure and excellent.

On the 3d June, 1853, an act was passed by the Legislature providing for the submission of the question to the electors, and the Common Council designated Monday, July 11, as the day upon which the vote should be taken. The Committee prepared the outline of a plan for supplying the city with water, apon which the electors were to vote. The result as as follows:

 Whole number of votes cast
 .9

 For the Water plan
 4,000

 Against the Water plan
 5,007

This result dampened the ardor of the advosates of water only temporarily, for in February, 1854, the Water Committee of the Common Council asked and obtained consent to employ an engineer to aid them in their investigations of the subject, and to prepare such plans as they might agree upon. On the 13th of March the Committee reported a plan, which they had prepared, with estimates and surveys, made by Gen. Ward B. Burnett, Civil Engineer, who also had made the estimates of the Long Island Water Company. This plan adopted substantially the same sources of supply as were proposed by Mr. McAlpine-the location of the reservoir being changed from Prospect Hill to Cypress Hill-and contemplated the construction of works adequate to the supply of twenty millions of gallons daily, with a capacity for an increase to forty millions. Two engines were to be erected; capable of pumping ten millions of gallons daily; eighty miles of pipe were to be laid, and 800 hydrants provided for the then wants of the city. The whole expense of the works, including engines and pipes, was mated at \$4,025,000-to which there was to be added \$45,000 for land, title of the Long Island Water Company, and other expenses, making the total expense, as estimated, \$4,500,000. The report was ordered to be printed, and the Committee was authorized to negotiate with the Long Island Company for a transfer of the title of the ponds in their possession to the city. For this purpose the Committee in their plan recommended the appropriation of \$150,000. It was re solved tat the Legislature should be petitioned to

contract or otherwise, and also increasing the number of Water Commissioners from five to six.

On the 27th March, the report of the Committee was adopted. On the 11th May, a plan, to be submitted to the electors for their adoption or rejection. was agreed upon by the Common Council, and the 1st of June was fixed upon as the time for taking the sense of the people upon the subject. The result was

Whole number of vite cast 9,105

For the Water Plan 2,696

Against the Water Plan 6,492 Majority against the Water Plan . . .

This result settled the question for the time being but, on the 1st January, 1855, the act consolidating the Cities of Brooklyn and Williamsburgh and the Town of Bushwick into one municipal government went into full operation, and with the addition of ter ritory and population thus made to the old City of Brooklyn commenced a renewed agitation of the water question. In February the Legislature amended the harter of the Long Island Water Company, and changed its name to that of "the Brooklyn Water Company. This corporation had but a very brief existence, however, for on the 12th of April, 1855, was incorporated "The Nassau Water Company," with authority to purchase all the property, effects, &c., of the Brooklyn Water Company. The capital of the Nassan Company was to be three millions of dollars. the Company being empowered to increase it to six millions if necessary, and the Common Council was authorized to subscribe to its stock, to an amount not exceeding \$1,300,000, and to issue bonds of the city in payment thereof. The Nassau Company, it will be en, was the lineal descendant and legitimate suc cesser in the direct line of the Williamsburgh Water Company.

The company promptly organized and at once pe titioned the Common Council to authorize a subscription to its capital stock, to the amount proposed by its act of incorporation. On the 24th September, the Water Committee submitted a report in effect according to the propositions of the Company, and authorizing a conditional subscription to its capital stock of \$1,000,000. On the 15th November the report of the Committee was finally acted upon in the Common Council, and adopted by a vote of 27 year to 7 nays.

In April, 1856, a meeting of citizens was held at th City Hall. The result of their action was in effect to indorse the project of the Nassau Water Company, and they appointed a committee to confer with the Common Council on the subject. On the 5th of May, the Water Committee, after a conference with the Citizens' Committee, submitted a report. They recommended that the city should mmediately subscribe the sum of \$1,300,000 to the stock of the Nassau Company, upon the basis o which the work could be commenced at once, and prosecuted up to the next session of the Legislature. when an application could be made for power to raise the necessary funds to carry on the works to their completion. They also reported that the Nassau Water Company proposed to contract with H. S. Welles & Co. for the construction of the works, at a cost not to exceed \$1,200,000, of the capacity for the delivery of 20,000,000 gallons daily. The Directory of the Nassau Company had retired from their positions, and the following gentlemen, whose names had been approved by the Citizens' Committee, were elected to fill their places: John H. Prentice, Wm. Wall, Daniel Van Voorhies, James Carson Brevoort, Nicholas

Wyckoff, Thomas Sullivan and Nathaniel Briggs. On the 4th of June the Common Council took final action on the report of the Committee, and after a careful scrutiny of the contract and specifications, approved of the same.

On the 31st of July the work was formally com menced. On that day the Common Council, the Water Company, and a large number of citizens proceeded to the site selected for the reservoir, and, n their presence, broke ground with the usual appropriate ceremonies-the first shovel fall of earth being thrown up by George Hall, esq., Mayor.

On the 11th February, 1857, an act was passed esting the rights, interests, and property of the Nassau Company in the city, and constituting its Directors a Board of Commissioners to supervise the construction of the works under the contract entered into with Welles & Co .- it being provided that no alteration increasing the cost of the work should be made by these Commissioners without the consent of the Common Council. Provision was also made for the issue of additional six per cent bonds by the city to the amount of \$2,900,000, to make up the \$4,200, 000, which the work is to cost, and also such further amount as might be necessary to pay the interest on the bonds already issued. The interest thereafter, it was provided, should be met by taxation and the income of the works. It is under this act that the work has been prosecuted.

This brings us down to the present time, and to a description of the water sources and the works from which the city is supplied, with other details.

The supply is obtained from the gravel plains formng the long southern slope of Long Island. The dge of hills which form the back-bone of the Island, ommencing at Prospect Hill, in the City of Brooklyn, and terminating at the eastern extremities of the Island, divides it into two long and irregular slonesthe north slope constituting about one-third and the south slope two-thirds of the area of the Island. The rain-fall, which forms the basis of all water supplies thus shed partly into Long Island Sound and partly into the bays on the Atlantic. The Engineers estimate two-thirds of it to fall on the southern slope.

It is from the rain-fall on the southern slope that the Brooklyn supply is derived. It is very rarely that rain water falls upon a formation so well adapted to filter it of all impurities, to store it and to equalize its delivery into the brooks throughout the season of the rain, which falls annually. A large proportion sinks directly into the open gravel and sand plains, instead of passing off rapidly, as in rocky or clayey formations, into the streams, and wasting itself in freshets. Much of the water of the Brooklyn supply must pass through one to four miles in width of the sand-filter bed, from which it escapes pure and color-

The supply now being brought into the city will be derived from a drainage area of about 35 square miles; while beyond this area, easterly, there remains over 150 square miles of available drainage, ground threaded by the same character of brooks and streams as on the portion now used.

The construction of the Brooklyn Water Works was commenced in the Spring of 1856. The water was available for use in the iron pipes laid within the ity in December, 1858. The works consist of the iron distribution pipes laid

throughout the city, the receiving reservoir at Ridgewood, the iron force mains thence to the enginehouse, the engine-house and engines, the conduit, the canal, and six pond reservoirs situated upon as many streams, where the brook waters are retained by dams for convenient delivery by branch conduits into the main conduit and canal. A supplementary reservoir and engine will be built

within the limits of the city, on Prospect Hill, to contrel the high grounds in that neighborhood. It is to be at an elevation of 175 feet above mean tide, and divided into two apartments, with 20 feet depth of waser, holding 20,000,000 gallons. The iron pipes now laid from Ridgewood Reservoir

o the city and throughout the city measure 119 miles n aggregate length; they consist of pipes of the folowing diameters: 36-inch, 30-inch, 20-inch, 12-inch, 8-inch and 6-inch. Some 20 miles additional of pipes will probably be laid this season.

The Ridgewood Reservoir is situated on the dividing ridge before mentioned. It is about six miles distant from the City Hall, and its surface water, when full, will stand 170 feet above mean high water of New-York harbor. It is calculated for a depth of water of 20 feet, and will hold about 167,000,000 of N. Y. gallons. Like the Croton Reservoir, it has two divisions—the water being delivered into either, or drawn amend the Water Act of 1833, so as to empower the from either, as may be desired. One of the divisions

Common Council to have the works constructed by | has 15 feet of water in it. The other is not yet quite completed, and will not be ready to receive water for ten days yet.

There are two force mains laid, of 36-inch diameter, each to deliver the water from the pumping engines to These pipes are very heavy-the iron of the pipe being 14 inch thick at the lower end of the line, and 14 inch thick at the upper end. The Engine-House is not entirely finished, but

convenient boiler accommodations and coal-sheds or

the wings. The pump-well, which is within the build

ing, is large enough to accommodate four of the very

large class of engines contemplated in the contract

intervals during the past month, and had filled the

eastern division of the Ridgewood reservoir with

the valves. The cylinder of the engine is 90 inche

of 36 inches in diameter each, and the same stroke

The conduit terminates at the pump-well, deliver-

pends. It is 41 miles in length as completed at this

feet of water. It will deliver over 40,000,000 of gal-

At the eastern extremity of this conduit the open

The Water Commissioners, by a recent act of the

Legislature, are authorized to change this open canal

perience this Spring of the effect of this open canal

on the character of the water, already renders very

desirable. It is presumed that this change will be

effected during the season. In the meantime the

water of Jamaica Pond, which is delivered into the

present conduit at its eastern terminus will amply

Upon the existing conduit, there are man-holes

the surplus water, and arranged also to draw off the

The collecting reservoirs spon the streams, already

ferred to, are: Jamaica Reservoir, Simonson's

Brooklyn) Reservoir, Clear-stream Reservoir, Cor-

Hempstead Reservoir; a branch conduit connects

each of these with the canal. The branches are

sluiced at the upper ends, where the waters of each

reservoir are controlled. In each of these reservoirs

the vegetable deposits, the accumulation of a long

period of years, has been entirely removed. The

present bottom consists of sand or gravel. It was in

Jamaica Reservoir that the remains of the mastodon

The amount of water derived from these sources

These six reservoirs, together with other sources of

water available within the limits of the works wil

furnish according to the gaugings of the proper

streams a rate of nearly 20,000,000 of New-York gal-

lons of water during the lowest stages of their

The works constructing under the present contract

are predicated on a command of, and delivery of this

amount of water, with pumping power to correspond.

The population of Brooklyn now may be taken at

one-third of the population of New-York. This pro-

portion would give a consumption of water in Brook-

vn of 10,000,000 of gallons daily, if the water now

available in Brooklyn were generally and exclusively

New-York, a condition of things which it will take

The amount of money thus far paid for land pur-

chased for the water works along the entire line, is

\$277,257 62, but a large sum claimed for damages

by the owners of millsites whose business has been

ruined in consequence of the diversion of the water.

This is particularly the case with the mill property on

the south or lower side of the line of the water works.

All of the pends, and the streams by which they are

1686. The first grant was made by the Town of Hemp-

stead, to John Pine, the 26th of January, in that year,

The next grant was made the same year to William

Smith and Elias Dorlan, who were empowered to

Similar privileges were granted to Joseph Havi-

land in 1688, to Wm. Jaycox and Nathaniel Pearsal

in 1690, to Henry Liminton in 1691, and to Major

Jackson and Hope Willis in 1698. The streams were

in most cases named after the proprietors, and when

they were sold they were known by the name of the

new owner. These water privileges have been held

at great value for successive generations, and a large

sum will therefore be required to meet all the de

mands which are made by the present proprietors

some of whom obtained possession by inheritance

but the majority by purchase. The question of dam

ages is now, however, before the Commissioner

The pipes which lead from the Reservoir through

out the streets of the city are mainly of iron, while

small portion are composed of coment. It was

thought at first that the latter were better adapted

for the purpose intended than the iron ones, but it

has been found that they are more liable to injury

than the former. About two miles were laid as an

experiment, in the district bounded by Division ave-

nue, Wilson street, First street, and Kent avenue.

The pipes are laid four feet beneath the surface of

the street. The largest were manufactured in Edin-

burgh, Scotland, and the remainder in Pennsylvania

and New-Jersey. Before being put to use they were

tested by a hydraulic pressure of 360 pounds to the

square inch, and required to be free from

jected to the hammer test, and those found sound

in every respect were accepted, and the remainder

thrown aside. In case of breaks or alterations in the

pipes, the stop-cocks-about 700 in number, at con-

feet-are shut down on both sides of the breaks, so

that but a small part of the inhabitants are debarred

of the use of the water, as all repairs are made rapid

ly, and the detention seldom exceeds an hour or two

The method of tapping is the same as used in New

York and Jersey City. The tap is increased in

strength to equal the pressure this city will have

over the above cities. The mode of connection for

the houses is the same, but more substantial. The

Commissioners have jurisdiction of the tap and con-

nections to the line of the street or houses. The

highest point of distribution will be in the neighbor

hood of Bedford, and the lowest along the East

River. The following table will show the number of

leaks in the iron pipes, when first filled, on the 4th of

The condition of the cement pipes as to leakages

will be seen by the following tables

December, 1858:

enient distances apart, in no case exceeding 3,000

all imperfections. The were also

appointed by the Supreme Court for adjustment.

make use of the streams to run a grist-mill.

till remains unadjusted. These damages are claimed

used by its inhabitants as is the Croton water

some years to approximate to.

...0,275 900

as shown by gauges made during the dry seasons, is

were found, on the 27th of March, 1858,

Hempstead stream......

Making a total of.....

Valley stream.
Clear stream
Brookfield stream.
Jamaica stream.

as follows:

brooks.

nell's (or Valley) Reservoir, Rockville Reservoir, and

whole water, when necessary.

Upon the canal there are three of these waste-w

canal commences. This canal extends thence to

Hempstead reservoir, a length of 7 2-3 miles.

lens in 24 hours.

meet the wants of the city.

Water for fire purposes was first used on the night of December 12th, on a building owned by Thomas Glavely, corner of Myrtle av. and Schenck-st., and the first fire actually extinguished occurred on Fulton avenue, near the City Hall, a few days subsequently. the reservoir. There will be two check-valves on each. The water was speedily introduced into public and line. The length of each force main is 3,400 feet. | private houses, and up to this time 2,091 permits have been obtained from the Commissioner's office, The number of Fire Hydrants erected in Section No. One, Eastern District, is 261; in Sections Nos. Two. Three and Four, Western District, or old Brooklyn, 539, besides some 300 branches in the different street promises to be completed inside and out, about the mains which are laid and capped; the caps to be reiddle of June. It is 110 feet by 80 feet wide, with moved and hydrants set when the increase of buildings will warrant. The distance they are apart is about 400 feet on the average. In the 800, total, there will be some 200 with double nozzles, or autlets There is but one engine erected. The second will be for attaching two lengths of hose,

There are at the present time between sixteen and built this senson. This engine has been pumping at seventeen miles of sewers under contract, of which setween six and seven have been built in the Third fifteen feet of water, when it was stopped to adjust having obtained the necessary authority from the Legislature proceed to construct all the in diameter and 10 feet stroke. There are two pumps quired as speedily as circumstances will allow. The fountain for the Western District is situated in The engine was constructed by Woodruff & Beach

he triangular plot of ground in front of the City Hall, near the junction of Fulton and Court streets. The ing there the waters received from the canal and besin is circular, 60 feet in diameter, and built with a concrete bottom, brick lining, properly cemented, and date, with a fall of six inches to the mile. Its width I making the structure completely water-tight. The uside is 10 feet, and hight 8 feet 8 inches, with 5 | walls are of brick, and coped with blue stone. There are five feet of sodding on the outside, and a circular path of ten-feet width. A series of posts, five feet apart, and secured to each other by a stout iron chain. grounds the basin. The water in the fountain is taken from an eight-inch main on Fulton street, and is conducted by means of iron pipes to the center of the basin, which is provided with a stout piece of into a covered conduit, a change which the short ex- masonry, from which the jet is impelled. The jet is regulated by a series of plates, by means of which any form that may be deemed desirable can be produced. The path leading from the fountain to the Hall steps is widened 25 feet. At the intersection of Court and Fulton street the entrance will be widened 22 feet, and provided with iron posts. A space of 20 feet or both fronts is opened opposite the fountain, and also guarded with iron posts. The path from the extreme point of the Park to the fountain is ten feet wide. built every 1,000 feet, and two waste-weirs to pass off The basin which is four feet deep is built with a view to permanency and masonry for the fountain is calculated to bear any weight that may hereafter be put upon it. The jets are 1], 2 and 2] inches in dimensions, and are capable of throwing water to a hight of 65 feet. A stone hydrant for drinking purposes has been erected at the eastern entrance, and another of metal at the angle of the Park. The latter was put up by a private company. The narchitect and engineer is Mr. J. O. B. Webster, and

> The fountain in the Eastern District is situated at the junction of Fourth street, Division and Bedford avenues. The basin is octagonal in form, and 36 feet diameter, with a granite coping on the walls. The center-piece is of marble, set on a brick foundation, bearing three basin , the largest at the bottom, and the whole supported by a pedestal which is ornamented with images of dolphins and lions' heads. A revolving jet from the top throws a spray in the form of network and falls over in a cascade from one basin to the other, producing a fine effect. The different jets capable of being produced by this fountain are respectively designated by the following titles: Moulinet à Gérbe," "Eventeuil," "Palais Royal,"
> Double Moulinet," "Horizontale," "Vis d'Archimede a deux leviers," "Poule and Cirunde." The architects of this structure are Messrs. J. O. B. Webster and Thomas N. Doughty, and the mason Mr. Wheelock Owen.

> the masons Messrs. Alex. Bailey and Alex. Friel.

Both fountains are built in a substantial manner, and with the view of adding any kind of ornament which may hereafter be thought advisable. Their combined cost, as they now appear, will amount to \$4.000 The first man who did any manual labor on the

water works, at the commencement, was Ephraim S. Hallenback, who was the foreman of the first gang of men employed on the Reservoir. The following is a list of the officers connected with

he water works:

CHIEF ENGINEER—James P. Kirkwood.
PRINCIPAL ASSISTANTS—Moses Lane, Samuel McElroy,
DIVISION ASSISTANT—Theodore Weston.
ASSISTANTS—WIR. L. Elliefer, J. Atticus Robertson, Joseph
elmett, Alexander McElroy, Frederick Coleman.
ASSISTANT EXCIPER IN CHARGE OF DISTRIBUTION—Joseph
B. Webster.

A. B. Webster.
CLERK TO CRIEF ENGINEER—Charles H. Pelletrean.
INSPECTORS OF CONDUTT—F. W. Owen, Geo. Wilson, Robert
ameron, Wm. Freeland, James Russell.
INSPECTOR OF RIDGEWOOD RESERVOIR—Oo. W. Downing.
INSPECTOR OF WILL AND PUMP ENGINE HOUSE—Wm. S.

OSDOTH.
SUPPRINTENDENT.—Daniel A. Webster.
INSPECTORS OF PIPES AND LAYING.—James St. John, David
I. George, H. H. Seidentoff, L. S. Zulavsky, Theodore A. Drake,
Class. Phillips, Wm. Trembly, Peter S. Beck, Davis Offlick, John
I. Rhodes.

H. Rhodes.

CONTRACTORS.—Henry S. Welles & Co.
CLERKS.—M. Clapp, O. P. Quintard, S. W. Goodrich, John
Demott, S. H. Henderson.
COMMISSIONERS.—John H. Prentice, President; Wm. Wall,
Daniel Van Voorlies, James Carson Brevoort, Nicholas Wyckoff,
Thomas Shiliyan, Nathaniel Brigss.
CLERK TO COMMISSIONERS.—A. H. Osborn.
ASSISTANT.—Peter Hegeman.

MARINE AFFAIRS.

The steamship Yorktown, owned by the Virginia Steamship Company, was on Monday afternoon suc-cessfully launched from Mr. W. H. Webb's ship-yard. She was taken to the Morgan Iron Works, foot of Ninth street, E. R., to receive her machinery.

THE BRIG ENTERPRISE ASHORE.

The brig Enterprise, Capt. Wiseman, of Windsor, N. S., loaded with plaster, came on shore three miles east of Horton's Point Light, in Long Island Sound, on the morning of April 24. The vessel has bilged and is full of water, but lies easy and may be saved. She is supposed to be uninsured. Her crew are all

Correspondence of The N. Y. Tribute.

SOUTHAMPTON, April 24, 1859. The schooner Albrahamma, Capt. Bunker, from James River, Va., bound to Belfast, Me., came on hore about one mile east of this place on Saturday ight, about 10 o'clock, during a heavy blow from S. W. She shipped a heavy sea on the bar, which tove the boats and injured three of the crew considerably. She finally drove over, high on the beach. Her cargo consists entirely of ship-timber, which will all be saved. The vessel will probably be a total loss. Neither vessel nor cargo insured.

PICKFOCKETS .- A large number of pickpockets ere arrested yesterday on the outskirts of the Odd Fellows' procession, while busily plying their knavish vecation. So far as reported, only two persons were obbed, viz.: Mrs. Harriet Evans of Hoboken, who had her pocket picked of a portemonnaic containing \$5, and Wm. Hibbard, a grocer's clerk, in Spring treet, who was robbed of a silver watch. Fifteen pickpockets were arrested and locked up in the various station-houses. Two of them said they came from Albany. They were ordered by Deputy Carpenter to e detained until after the Brooklyn Water Celebra-

ion to-day.

Capt. Walling, last evening, received a dispatch om St. Louis, announcing that five expert pickpeckets had left that city for New-York, to be present the celebration in Brooklyn. A description of the llows was also forwarded. The police are looking or them, as their portraits are wanted to grace the Rogues Gallery.

THE CHIEF MOURNER.-Wm. Wilson, alias Wm. Hatfield, the pions individual who has become famous by officiating as chief mourner at funerals, and picking the pockets of the grief-stricken relatives, arrested on Monday evening, in company with John Smith alias Brown, another noted pickpocket, while at work, at Dr. Matfield's Church, during a lecture by the Rev. Henry Ward Beecher. Justice Kelly committed them for examination.